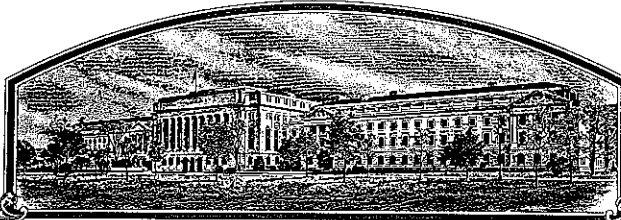


No.



9500068

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Cebeco Zaden B. V.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT, IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE KNOWN BY THE VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF SEEDS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'Estica'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-eight day of May in the year of our Lord one thousand nine hundred and ninety-nine.

Attest:

Ann Marie Ivers

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service



Secretary of Agriculture

EXHIBIT AOrigin and Breeding History of ESTICA (*Triticum aestivum*)
-----Origin:

Crossing: Arminda x Virtue in 1978 on our breeding station in Lelystad, Holland.

Breeding history:

Single Plant Selection in 1980.

Reselection in 1982, 1985, 1986 and 1987 on:

- * resistance to the most important diseases
- * winterhardiness
- * strawstiffness
- * yield
- * quality

Maintenance:

Line selection on our breeding station in Lelystad;
small multiplication for breedersseed;
production of prebasicseed.

Uniformity and Stability:

Since 1987 ESTICA has been observed to be stable and uniform.

EXHIBIT B

Novelty statement

ESTICA (*Triticum aestivum*) is an unique variety that is easily distinguishable from all other wheat varieties. Statistical comparison of ESTICA to other varieties is summarized in table 1.

Table 1:

Character	varieties					
	ESTICA	Arminda	Obelisk	Ritmo	Tessa	AAA
I. Days after 1/5 to last flower	40*	39.25	37.75*	39.50	39.00	
st. deviation	6.65					
LSD 5%	1.71					
LSD 1%	2.39					
II. Plantheight (cm)	91.50*	95.25	101.00*	88.00*	90.25	
st. deviation	7.08					
LSD 5%	9.24					
LSD 1%	12.96					
III. Leafsize (mm)	243.50*	214.50*	241.25	239.00	246.25	
st. deviation	26.46					
LSD 5%	28.45					
LSD 1%	39.88					
IV. Flagleaf length (mm)	218.50*	176.50*	212.00	180.75**	190.00*	
st. deviation	25.03					
LSD 5%	25.18					
LSD 1%	35.30					

These are the most similar varieties per FAX of 31 Aug 1995
AAA 27 Nov 1998

**ZADEN B.V.**

CEBECO & VAN ENGELLEN IN PARTNERSHIP

9500068

ANNEX to EXHIBIT B

<u>Characteristic</u>	<u>ESTICA</u>	<u>Arminda</u>	<u>Obelisk</u>	<u>RITMO</u>	<u>Tessa</u>
* Flag leaf length (mm)					
- 1992:	202	169	196.5	161.5	175
coeff. variation	9.79				
LSD 5%	15.86				
LSD 1%	26.31				
- 1993:	235	184	227.5	200	205
coeff. variation	10.68				
LSD 5%	20.38				
LSD 1%	33.80				
* Flag leaf width (mm)					
- 1992:	17.5	18.5	18.5	18.0	18.5
coeff. variation	5.38				
LSD 5%	1.76				
LSD 1%	2.91				
- 1993:	20.5	17.0	21.5	20.5	20.5
coeff. variation	8.66				
LSD 5%	2.15				
LSD 1%	3.57				
* Stem length (cm)					
- 1992:	95	97.5	98	92	81
coeff. variation	7.09				
LSD 5%	9.17				
LSD 1%	15.2				
- 1993:	88	93	104	84	94.5
coeff. variation	7.99				
LSD 5%	9.45				
LSD 1%	15.68				
* Ear length (mm)					
- 1992:	90	97.5	112.5	97.5	100
coeff. variation	7.93				
LSD 5%	11.19				
LSD 1%	18.56				
- 1993:	105	87.5	95.0	89.0	92.5
coeff. variation	8.53				
LSD 5%	7.16				
LSD 1%	11.87				
* Ear width (mm)					
- 1992:	10.5	10.0	11.5	12	11.5
coeff. variation	7.48				
LSD 5%	1.64				
LSD 1%	2.72				
- 1993:	12.5	11.5	11.0	13.0	12.5
coeff. variation	6.86				
LSD 5%	1.08				
LSD 1%	1.78				

EXHIBIT C

FORM CR-470-5
(2-15-73)

UNITED STATES DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 Livestock, Poultry, Grain & Seed Division
 Natl. Agricultural Library, Beltsville, MD 20705
 OBJECTIVE DESCRIPTION OF VARIETY
 WHEAT (TRITICUM SPP.)

FORM APPROVED, OMB NO. 46-R3742

EXHIBIT C
THWINSTRUCTIONS: See Reverse.
NAME OF APPLICANT:

CEBECO ZADEN B.V.

ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)

P.O. Box 10000

5250 GA Vlijmen - Holland

FOR OFFICIAL USE ONLY

HYPO NUMBER

9500068

VARIETY NAME OR TEMPORARY DESIGNATION

ESTICA

Place the appropriate number that describes the varietal character of this variety in the boxes below.
 Place a zero in first box (e.g., 0 8 9 or 0 9) when number is either 90 or less or 9 or less.

1. KIND:

1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:

2 = 1 = SPRING 2 = WINTER 3 = OTHER (Specify) 1 = SOFT 3 = OTHER (Specify)
 2 = HARD

2 = 1 = WHITE 2 = RED 3 = OTHER (Specify)

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

1 9 8 FIRST FLOWERING 2 0 5 LAST FLOWERING

4. MATURITY (50% Flowering):

NO. OF DAYS EARLIER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS
 0 3 NO. OF DAYS LATER THAN Ritmo 4 = LEMMI 5 = NUGAINE 6 = LEEDS

5. PLANT HEIGHT (From soil level to top of head):

0 9 3 CM. HIGH
 1 0 CM. TALLER THAN Ritmo 1 = ARTHUR 2 = SCOUT 3 = CHRIS
 0 1 CM. SHORTER THAN Arminda 4 = LEMMI 5 = NUGAINE 6 = LEEDS

6. PLANT COLOR AT ROOTING (See reverse):

3 = 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHUR COLOR:

1 = 1 = YELLOW 2 = PURPLE

8. STEM:

1 Anthocyanin: 1 = ABSENT 2 = PRESENT Waxy bloom: 1 = ABSENT 2 = PRESENT
 2 Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT 1 Internodes: 1 = HOLLOW 2 = SOLID
 NO. OF NODES (Originating from node above ground) CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

2 Anthocyanin: 1 = ABSENT 2 = PRESENT 2 Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

1 Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 1 Flag leaf: 1 = NOT TWISTED 2 = TWISTED
 1 Hair of first leaf sheath: 1 = ABSENT 2 = PRESENT 2 Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT
 1 5 MM. LEAF WIDTH (First leaf below flag leaf) 2 4 CM. LEAF LENGTH (First leaf below flag leaf)

11. HEAD:

☒ 2 Dorsum: 1 = LAX 2 = DENSE

☒ 1 Anther: 1 = AX 2 = DENSE

☒ 1 Anther: 1 = AX 2 = DENSE

☒ 1 Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED 5 = BROWN 6 = BLACK 7 = OTHER (Specify):

☒ 10 CM. LENGTH: ☒ 11 MM. WIDTH

12. GLUMES AT MATURITY:

☒ 2 Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.)

☒ 2 Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.) 3 = WIDE (CA. 4 mm.)

☒ 4 Shoulder: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE

☒ 2 Back: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

☒ 2 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

☒ 2 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

☒ 2 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

☒ 2 Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

☒ 1 Cheek: 1 = ROUNDED 2 = ANGULAR

☒ 2 Beak: 1 = SHORT 2 = MEDIUM 3 = LONG

☒ 1 Beak: 1 = NOT COLLARED 2 = COLLARED

☒ 5 Phenol section: 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

☒ 3 Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify):

☒ MM. LENGTH ☒ MM. WIDTH ☒ GM. PER 1000 SEEDS

17. SEED CREASE:

☒ Width: 1 = 60% OR LESS OF KERNEL 'WIDOKA' 2 = 80% OR LESS OF KERNEL 'CHRS' 3 = NEARLY AS WIDE AS KERNEL 'LENN'

☒ Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRS' 3 = 50% OR LESS OF KERNEL 'LENN'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☒ 0 STEM RUST (Race)

☒ 2 LEAF RUST (Race)

☒ 2 STYPE RUST (Race)

☒ 0 LOOSE SMUT

☒ 2 POWDERY MILDEW

☒ 0 BUNT

☒ 0 OTHER (Specify):

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☒ 0 SAWFLY

☒ 0 ARRID (Byrd)

☒ 0 GREEN BUG

☒ 0 CEREAL LEAF BEETLE

☒ 0 OTHER (Specify):

20. HESSIAN FLY RACES:

☒ A ☒ B ☒ C ☒ D ☒ E ☒ F ☒ G

21. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Arminda/gotz	Seed size	Arminda/Gotz
Leaf size	Arminda/Gotz	Seed shape	Arminda/Gotz
Leaf color	Arminda	Coleoptile elongation	Arminda/Gotz
Leaf carriage	Arminda/Gotz	Seedling pigmentation	Arminda/Gotz

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(a) L. V. Huggins and L. P. Rehn, 1963, *Classification of Triticum Species and Wheat Variety Groups in the United States*, Technical Bulletin 1278, United States Department of Agriculture.

(b) P. E. Wells, 1963, *A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity*, contribution No. 48 to the Handbook of Seed Testing prepared by the Association of Official Seed Analysts. (See attachment.)

9500068

QUALITY DATA ON ESTICA, WINTER WHEAT (9500068)

	<u>mix</u>	<u>sds</u>	<u>pra</u>	<u>brv</u>	<u>zel</u>	<u>hfn</u>
Variety:						
ESTICA	199	55	12.3	682	31	253
Ritmo	202	62	12.0	674	32	353
Bussard	238	80	13.9	725	59	377
Tambor	218	67	13.7	702	42	366
Herzog	205	58	13.3	675	39	328
Contra	169	47	12.2	608	19	358
Vivant	190	50	11.6	670	27	359
Bercy	212	64	12.0	671	34	289

mix = mixograph
 sds = sedimentation
 pra = protein content (%) according to Abraham Laboratory
 brv = bread volume
 zel = zeleny value
 hfn = falling number

Oct. 12, 1998
BS/MW

Exhibit E ESTICA
Statement of the basis of ownership

1. Does the applicant own all rights to the variety? Yes x No
 If no, please explain.

2. Is the applicant (individual or company) a U.S. national or U.S. based company? Yes No x
 If no, give country The Netherlands

3. Is the applicant the original breeder? Yes x No
 If no, please answer the following:
 - a. If original rights to variety were owned by individual(s):
 Is (are) the original breeder(s) a U.S. national(s)? Yes No
 If no, give country

 - b. If original rights to variety were owned by a company:
 Is the original breeder a U.S. based company? Yes No
 If no, give country

Notes: Plant variety protection can be afforded only to variety owners (not licensees) who meet the following criteria.

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original breeder, both the original breeder and the applicant must meet the above criteria.

The original breeder may be the individual or company who directed final breeding. See PVPA Section 41(a)(2) for definition.

* see annex B

Annex B to Exhibit E (ESTICA, winterwheat)

Statement with regard to ownership

The variety ESTICA, for which Plant Variety Protection is hereby sought, was developed by Dr.H.C.de Jong, an employee of CEBECO ZADEN B.V., POB 10000, 5250 GA Vlijmen, The Netherlands (the applicant).

By agreement between employees and Cebeco Zaden B.V., all rights to any invention discovery, or development made by the employee while employed by Cebeco Zaden B.V., are assigned to Cebeco Zaden B.V., with no rights of any kind pertaining to the variety ESTICA being retained by the employees.


CEBECO
ZADEN B.V.
Vlijmen, Holland